★ OCCUPATIONAL ★ HAZARDS

MARCH

There's Profit in PREVENTION

1942

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- HOW TO CARE FOR FIRE HOSE
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- PLANT PROTECTION POINTERS
- SAFETY CLOTHING FOR WOMEN

THE ONLY MANAGEMENT PUBLICATION DEVOTED TO THE ENGINEERING CONTROL OF
Dusts • Fumes • Vapors • Gases • Organic Solvents • Dermatitis • Industrial Sanitation • Industrial Health and Safety

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Dust, a very annoying handicap, has been eliminated. A noticeable increase in production, cleaner and better working conditions, and a better finished product made in less time, are the results of this installation.

Consult Kirk & Blum Engineers concerning your dust control problems. Their recommendations are based on practical experience of more than a third of a century.

The above illustration shows the Kirk & Blum Down Draft Dust Control System in actual operation at The R. K. LeBlond Machine Tool Co. This installation consists of the following equipment. Three small round stations, two intermediate round stations, one large round and one rectangular station all bench type. Provisions were made for future large down draft floor gratings. All piping located in trenches so not to obstruct working areas. Means of exhaust were Roto-Clones with special designed "After Cleaners."

WRITE FOR CATALOG

"Dust Collecting Systems in Metal Industries"

"Blower Systems for Woodworking Plants"

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"Industrial Ovens"

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Air Borne

DESTRUCTION

CAN COME IN INDUSTRY TOO!

Dust—like enemy Paratroops—is an air-borne menace which, unless controlled, destroys materials, finished products, and man hours of work.

Industry and the war emergency can no longer afford the delay and loss which dust imposes on the nation's productive capacity. So today—more than ever—clean air is recognized as an *industrial necessity*. Practically every new defense plant has been supplied with AAF air filtration and dust control equipment, and hundreds of additional installations have also been made in existing plants whose facilities are required for war material production.

Write for booklet "AAF in Industry," which tells the story of industrial dust problems and their solution.

AAF

AMERICAN AIR FILTER COMPANY, INC.
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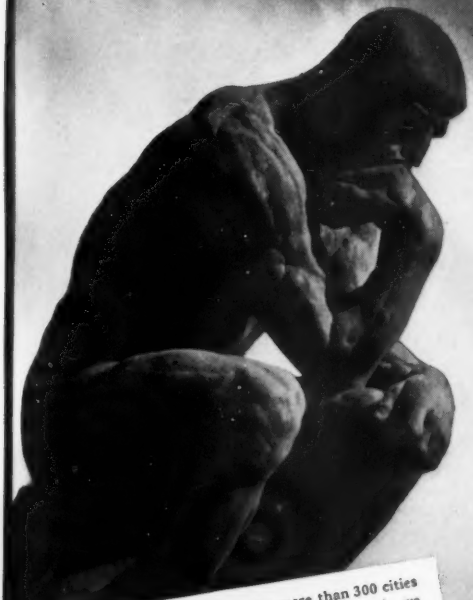
CONCENTRATION AT WORK



FOUR YEARS AGO, we figured it this way: we can build a long line of Safety Shoes, a style for every conceivable use. Or, we can CONCENTRATE on the dozen BASIC MODELS which fill the great majority of industry's needs.

We concentrated. Left out the highly specialized lines, reaped rewards in production efficiencies. Today, Thom McAn Safety Shoes are one of the largest selling brands.

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2. Your workmen will buy the first pair without pressure on your part, because they already know and trust the Thom McAn name.*

3. Designed upon findings of a patented research device, fitted in our stores by our own trained fitters, Thom McAn Fitmaster Safety Shoes give proper fit and genuine comfort.

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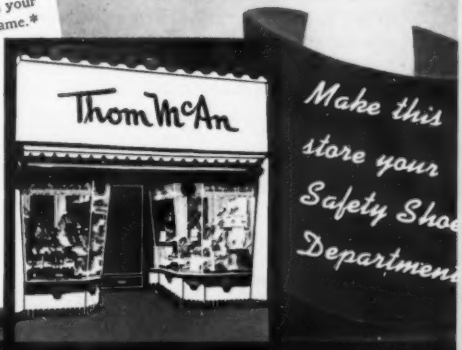
If you have a plant shoe department which you wish to continue, Thom McAn Safety Shoes are

ALSO SOLD DIRECT on special terms, to plants which are volume purchasers.



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Group Wash Fixtures Reduce These Man-Day Losses

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Bradleys save time and space, and reduce water consumption . . . They cut installation costs, too, because an 8 to 10-person Washfountain requires but one set of piping connections, 1/8 to 1/10th as many as required for 8 to 10 "single person" wash basins.

"Washroom Plan Book" will be mailed on request. BRADLEY WASHFOUNTAIN CO., 2259 West Michigan Street, Milwaukee, Wisconsin.

BRADLEY *washfountains*

The sprayhead serves clean running water to each person—the bowl is self-flushing to prevent collection of water and contamination.

OCCUPATIONAL Hazards

MARCH 1942

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Literature for complete health and safety program is available. Free for the asking.

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75 common chemicals and their inherent hazards are tabulated. Good bulletin board information.

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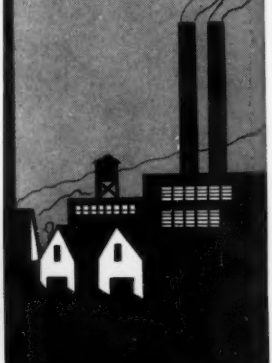
Jack Weiss, Editor



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CHEMICALS in Industry

By **E. WARD THOMPSON, Industrial Hygienist**
American Mutual Liability Insurance Co.

INDUSTRIAL accident prevention authorities generally agree that the large increases in accident frequency and severity now being reported are due primarily to conditions peculiar to the times. New workers are unfamiliar with machines, experienced workers are unfamiliar with new equipment and processes, production lines deal with new materials and methods.

During normal times, increased chances of accident due to such unfamiliarity are offset by intensive safety training, education, supervision and mechanical safeguarding. Now, however, time has become paramount. This tends to cause the curtailment of safety effort or leads to a situation where increased activity presents problems faster than the safety program can meet them. The obvious result is a mounting tide of accidents to men, machinery and materials.

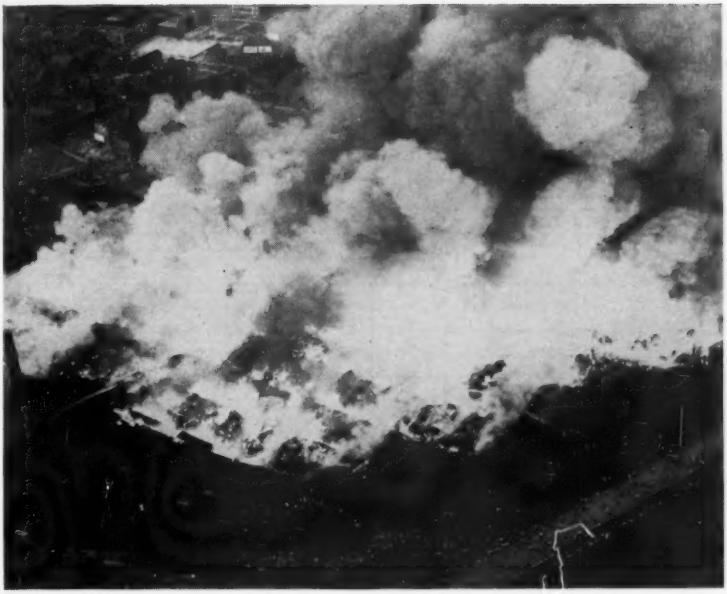
Dangerous in all phases of industrial activity, any let-down of safety becomes particularly dangerous in regard to the use of chemicals. There is probably no single source of industrial accidents which combines so many potential hazards. A tabular study of seventy-five chemicals in industrial use shows six major types of accidents and injuries which may result in fire, explosion, asphyxiation, dermatitis, burns and poisoning. In several instances, a single chemical can be responsible for three, or even four, of the six types. In addition, it must be recognized that chemicals are potential causes of accident while in storage, in transit and in use.

Warning

This article is designed to warn plant management of a situation which is beginning to assume considerable proportions and may be expected to become worse—and, at the same time, to outline a practical program for protection against most of the hazards inherent in chemicals.

The situation itself has materialized because of one or both of two conditions: (1) Denial of regularly-used chemical substances either because of natural shortages or through priority diversion; (2) the placement of war-material orders in

Hundreds of industrial plants are today being forced by our war-time economy to introduce new chemical substances into their manufacturing processes. This situation exposes men, as well as machinery and materials, to a wide range of hazards with which they are not familiar and demands the serious consideration of industrial management if accidents from these causes are to be held in check. In addition to a tabular presentation of seventy-five common chemicals and their inherent hazards, Mr. Thompson recommends a five-point program for preventing accidents from chemicals.



Fire is one hazard inherent in many industrial chemicals. They also cause explosion, asphyxiation, dermatitis, burns and poisoning.

plants normally engaged in producing entirely different materials. In dealing with the first condition, management is prone to accept the substitute which produces a satisfactory result, is economical and can be secured regularly. In the second situation, management all too frequently confines its concern to making equipment and skills fit new requirements and to production schedule. In either instance, a new and hazardous chemical substance is introduced without means provided to prevent its causing an accident.

5 Point Program

Control of this accident-source needs the completion of five steps:

1. Management must make a point of knowing whenever any new chemical is introduced into the plant. Instances have occurred in which such substances have been used without knowledge of possible hazard. The first warning of its dangerous character has come when workers have developed dermatitis or other occupational disease, or when a fire has occurred. The purchasing agent or plant superintendent must keep management informed as to substitutes or the use of new products.
2. The pathogenic properties of

CHEMICALS IN INDUSTRY

MATERIAL	INHERENT HAZARDS					
	Fire	Explosion	Dermatitis	Burns	Toxicity	
					Short	Long
Acetone	●	●	●			
Aluminum Dust	●	●				
Ammonium Perchlorate		●				
Amyl Acetate	●					
Amyl Alcohol (Active)	●					
Anhydrous Ammonia			●		●	
Aniline					●	
Barium Chlorate	●	●				
Barium Peroxide	●	●				
Benzine (High test gasoline or petroleum ether)	●	●	●			
Benzol (Benzene)	●	●	●			●**
Bleaching Powder			●			
Bromine	●				●	
Bronze Dust	●	●				
Butane	●	●				
Cadmium						●
Camphene	●					
Carbolic Acid (Phenol)	●		●	●		
Carbon Bisulphide (Disulphide)	●	●			●	
Carbon Tetrachloride			●			●
Chlorinated Lime			●			●
Chlorine					●	
Chlorodiphenyls			●			●
Chloronaphthalene (Halowax)			●			●
Cyclopropane	●	●				
Dichlor Ethyl Ether						●
Didymium Nitrate	●					
Dioxan	●	●	●			●
Ethyl Alcohol	●		●			
Ethylene	●	●				
Ethylene Dichloride						●
Formaldehyde			●			
Formic Acid	●		●	●		
Fulminate of Mercury		●	●			●
Fulminate of Silver		●				
Gasoline	●	●	●			
Hydrochloric Acid				●		

* Fatal in exposures of short duration to very small quantities. ** Tolerance to benzol fumes is extremely low.

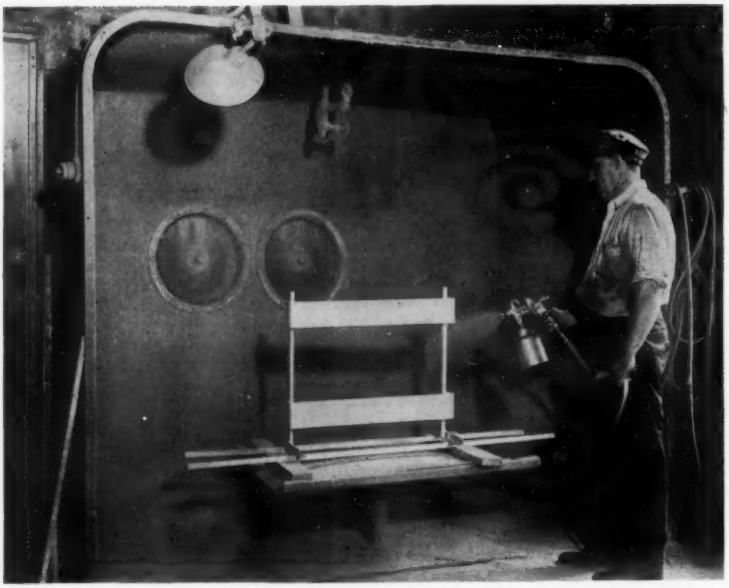
REMOVE AND POST

CHEMICALS IN INDUSTRY

MATERIAL	INHERENT HAZARDS					
	Fire	Explosion	Dermatitis	Burns	Toxicity	
					Short	Long
Hydrocyanic Acid	●	●	●		* ●	
Hydrogen Fluoride			●	●		●
Hydrogen Sulphide					* ●	
Lead						●
Magnesium	●	●				
Mercury			●			●
Methanol			●			●
Nitraniline or Nitro Aniline	●				●	
Nitric Acid	●	●		●		●
Nitrobenzene						●
Nitrochlorobenzine		●				
Nitrogen Oxides					* ●	
Phosphorus Red	●	●	●	●		●
Phosphorus White or Yellow	●	●		●		
Picric Acid	●	●				●
Potassium	●			●		
Potassium Chlorate		●				
Potassium Cyanide			●		●	
Potassium Hydroxide			●	●		
Potassium Nitrate	●					
Potassium Permanganate		●				
Potassium Peroxide		●				
Silver Nitrate				●		
Sodium	●			●		
Sodium Cyanide			●		●	
Sodium Hydroxide			●	●		
Sodium Peroxide		●				
Sulphur	●	●				
Sulphuric Acid	●			●		
Tetrachlor Ethane						●
Tetrachlor Ethylene						●
Thorium Nitrate	●					
Toluol (Toluene)	●					●
Trichlor Ethylene			●			
Turpentine	●		●			
Vinyl Ether	●	●				
Xylol (Xylene) Coal Tar	●					●
Zinc Chlorate		●				

* Fatal in exposures of short duration to very small quantities. ** Tolerance to benzol fumes is extremely low.

ON BULLETIN BOARD



Chemical fumes generated in spraying process are trapped at the source by ventilating equipment. In many cases respirators can also be used.

each new chemical must be determined. In most cases this information is relatively simple to obtain. For bulk chemicals, the manufacturer or the distributing source will usually provide it. Where semi-finished materials are used, their manufacturer should be able to advise if any dangerous chemicals are present. If these sources are unable or unwilling to provide such information, chemical analysis by any recognized laboratory will answer the question.

3. The third step is to evaluate the hazards pertaining to each chemical substance. In many cases this information will be furnished by the manufacturer. If not, it may be secured from insurance company safety engineers or from state divisions of occupational hygiene and, for explosion and fire hazards, from fire insurance company inspectors and the National Fire Protection Association.

4. Once determination of hazards has been completed, the problem is to safeguard the workers by mechanical means or safe practices which provide adequate protection for workers and plant. In many in-

(Please turn to page 28)

Care of Fire Hose

By **MICHAEL BERMAN, Technical Superintendent**
Hewitt Rubber Corporation, Buffalo, N.Y.

INDUSTRIAL PLANTS, as well as municipal fire departments, must give their fire hose expert and systematic care in order to get the most out of their purchases.

These suggestions, borne out of many years' experience in fire hose, and worked out primarily for municipal fire departments, should be of value to maintenance men employing this all-necessary item in or about their plants.

1. When new hose is received do not allow it to remain packed in cases until it may be required. Remove from cases and loosen the coils.

2. Do not allow hose to remain in trucks or on reel, if wet or muddy. Remove all mud by washing or brushing with a coarse broom and expose to air, in towers or on racks, preferably at full length, to dry.

Hose that is antiseptically treated will not mildew or rot if given ordinary care, but continual dampness is injurious to cotton fabrics. Mud often contains metallic or other substances that are chemically injurious to hose if permitted to remain on it.

3. Do not permit hose to remain on apparatus for any great length of time when not used. It should be removed, hung up in towers or on racks, and replaced with a fresh supply. Avoid short bends in hose that is stored away. When necessary to store hose in folds, the folds should be changed to overcome permanent set in the rubber lining.

4. Unless hose is likely to encounter a freezing temperature it is not necessary to drain the water out perfectly, as the rubber lining isn't injured by dampness within. On the contrary, hose is benefited by remaining in a moist condition. All rubber lined hose should have water passed through it at frequent intervals to moisten the rubber.

5. Hose when frozen is liable to crack, if bent while in that condition. Extreme cold causes deterioration of rubber, but not sufficient to prevent storage of hose in cold hose houses, if thoroughly drained and dried.

6. Avoid exposure of hose to very hot, dry air. It should not be stored where exposed to the sun's rays. When hose must be stored in hot, dry places, it is best to pass water through it monthly.

7. When fire hose is being used, see that section nearest engine or hydrant is not being chafed at point of contact with the ground by vibration.

8. Acids and other chemicals, oils, iron rust, etc., fumes arising from some processes are injurious to hose and contact with them is to be avoided.

9. When discharging or recharging chemical engines or extinguishers, see that solutions used do not come in contact with the hose.

10. Be careful that oil and gasoline do not come in contact with hose. A small moisture deposition of gasoline leakage acid separates the

"If You Would Create Something — You Must Be Something"
—GOETHE

And this goes for all fine craftsmen. In order to create, years of intelligent training is necessary. Eyes, hands, brain must coordinate with masterful precision—health must be considered. Since 1894, H. S. Cover has created DUPOR lung protection. Today there is a respirator for every known dust hazard.

DUPOR No. 1 Miniature nose mask — weighs less than 1 ounce — provides 9 sq. in. filtration—sells $12 dozen — sample $1 postpaid.

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36 Chippewa St., South Bend, Ind.

rubber from the fabric of fire hose and produces subsequent failure when placed in service.

11. Before returning the hose to apparatus or reel, see that the section (or line of hose) are not twisted. Each section should be laid out straight and perfectly flat on the floor or ground and carefully examined. If not twisted, the sections or line of hose will collapse naturally in a flattened condition—if twisted, the irregularities in form of "lumpiness" will be observed or quickly detected when folding the hose on the apparatus.

Unlined Linen Hose

Never wet unlined linen hose except in use at a fire. As the hose has no rubber lining, there is a certain amount of leakage or sweat through the fibers, but when the fabric is saturated, the hose is practically water-tight. Any slight pinholes are consistent with good manufacture, and should not be considered as a defect.

After wetting, thoroughly dry the hose inside and out. Care should be taken in handling linen hose, because it is very stiff and if dragged on the floor or kicked when in service, the hose is liable to be injured. It is very important the hose be dried, also that the valves do not leak, for if the hose is kept in a damp condition it is liable to mildew and rot. The hose should be suspended on a rack than coiled, as it is essential that the air circulate between the folds of the hose, and thus expel any possible dampness.

★ ★ ★ ★ ★ ★

Before this War is won some businesses will die. Most business men, however, will live to build again.

SOME SOLDIERS WILL NOT GET THIS BREAK

BUY DEFENSE BONDS

★ ★ ★ ★ ★ ★

Safety for Workers in New Defense Plants

Protection against aerial bombardment is vital consideration in new plants designed by noted architectural firm of Albert Kahn, Inc.

TO THE list of occupational hazards can now be added the danger of aerial bombing.

With the United States going "all out" in her war effort, she has completely lost her complacency. This country now knows "it can happen here." Even inland cities are taking air raid precautions; citizens everywhere are being educated in what to do if and when the enemy strikes from the air.

Long before Pearl Harbor, however, the United States Government and builders of the huge, new defense plants had sufficient foresight to develop air raid protection for industrial workers.

So, if enemy bombers come winging over this continent, on destruction bent, the nation's great new defense industry will quickly "go dark." And workers, when such danger threatens, will scurry into specially prepared, effective bomb shelters.

Protection against aerial bombardment has been well taken care of in the great majority of the huge defense plants that have been designed by Albert Kahn, noted industrial architect, in whose Detroit offices day and night work is the rule. For instance, in the designing of huge bomber and airplane engine plants, his organization has met, and often surpassed, every Government requirement as to blackout facilities and shelters.

Curtiss-Wright Designs

The Kahn organization has served as architects and engineers in the great expansion of the Curtiss-Wright Corporation, its affiliated companies and its divisions. In a period of only slightly more than two years, Curtiss-Wright has increased the number of its plants from four to fifteen, with a combined floor space of more than 11 million square feet—more area, as a matter of fact, than that boasted by the entire American aviation industry at the time World War II started.

In the course of designing new structures for this particular expansion program, Mr. Kahn and his men hit upon a development that not only serves as ideal shelter against bomb fragments, but tremendously enhances the efficiency of plant operation and the comfort, convenience and welfare of employees.

As exemplified in the sprawling, 37-acre airplane engine factory of the Wright Aeronautical Corporation, a Curtiss-Wright subsidiary company at Lockland, Ohio, near Cincinnati, the development is an

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unusually large basement space, 225,000 square feet in extent, which is in the general shape of a cross, with its center near the center of the building. Entering the building, employees pass down ramps into the basement. Never do they arrive from the outside direct on the production floor.

Locker Rooms, Washrooms

The basement accommodates corridors through which employees pass on their way to and from their positions in the factory above. And flanking the corridors are locker rooms, rest rooms, washrooms and a huge, air-conditioned cafeteria. Stairways, spaced at convenient intervals, take employees to the main factory floor, *near* their various working positions.

Not only does this arrangement effect a tremendous saving of employees' time, but it reduces to an absolute minimum confusion and interference with the flow of production, particularly when shifts are changing.

Prediction has been made that, for the sake of efficiency, this type of underground system will become more or less standard practice in mass production plants of all kinds after the war.

Now the subway-like passages and underground rooms would serve admirably as shelters if the worst came and the plants were bombed. The many thousands of skilled workers could scurry at a moment's notice into the underground system, where they could be accommodated in comfort without overcrowding for indefinite periods of time.

Protection Against Bomb Fragments

Heavy, reinforced concrete floor slabs, supported by massive columns, are there to protect them against bomb fragments.

"We believe this underground system one of the finest features we have ever hit upon in industrial plant design," declares Mr. Kahn. "Because it increases plant operating efficiency, it is bound to be widely used after peace comes. It is a distinct safety measure, for it keeps incoming and outgoing em-

ployees away from the production lines and the plant's machinery. Its tremendous value in time of war is self-evident."

Somewhat similar underground systems are to be found in the new plants of the Airplane Division of Curtiss-Wright Corporation at Buffalo, N.Y., and Columbus, Ohio; in the new Buick airplane engine plant at Melrose Park, Ill., near Chicago, and in other important defense structures.

In many new plants, bricked-in doorways are to be found at strategic points in basement walls. If the localities of these plants are ever subjected to persistent bombings, the doorways, which can be quickly made usable, will lead into bomb shelters, to be dug as the need arises.

Plenty of Glass

In his many years as an industrial architect, Mr. Kahn has been a consistent advocate of factory buildings with plenty of glass area in the walls and roof monitors. In this way, employees are able to enjoy the benefits of a maximum amount of light and fresh air. Yet, a "daylight plant," so-called, is a prime target for bombers when brightly lighted at night.

In defense plants the Kahn organization has designed, provision for blackout has been simply and effectively taken care of. Clip angles, drilled so two-by-fours can be bolted to them, are welded onto the vertical mullions between the sash in both the sidewalls and the monitors. To these, sheets of corrugated iron can be nailed to keep all the light within the plant at night.

Insurance Against "Office Colds"

Cut down the spread of time-wasting colds throughout your office: see that crisp, clean Aero Paper Cups are supplied at every drinking fountain. Aero Cups are used *once* and discarded, to avoid contagion.

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Divisions of United States Envelope Company

Address Dept. 30 at plant nearest you, for sample cups and full information.

AERO CUPS

Sabotage Protection

Glare, the anathema of lighting engineers, is now welcomed as an ally in the present defense against the saboteur. Westinghouse lighting engineers are using it to blind a would-be intruder to a war-materials plant while the guards remain inconspicuous in the shadows, just as one can at night see clearly into a lighted room but cannot be seen readily by those inside.

The luminaire design used in the scheme is old, the principle is simple. A Fresnel lens, in reality a miniature lighthouse beacon, throws a flat, fan-shaped beam of light, with great efficiency. A row of these luminaires is set on posts several feet away from the buildings to be protected, aimed so their light is projected slightly downward away from the buildings. The space between the luminaire and the buildings is virtually in darkness. A would-be intruder approaching the plant sees only these blinding spots of light; guards behind the lights see him clearly.

Protective Lighting Hint

Overlapping light from the luminaires in a protective system is an all-important element in design and installation because it continues the effectiveness of the system if one of the lamps fails or is put out of commission.

This frequently neglected consideration was emphasized recently by Robert J. Swackhamer, of General Electric's Illuminating Laboratory, in a talk to a group of lighting salesmen.

"In a protective lighting system where the luminaires are installed 125 or 150 feet apart, they should be capable of illuminating more than that distance. Then if one of the lamps should fail, a dark area will be averted," Mr. Swackhamer explained.

"Failure of a lamp on a system where the overlapping feature has been neglected necessitates anchoring patrolling guards at the darkened area until daylight, or until the lamp can be replaced. Replacement is usually a job only for an experienced and properly equipped lineman because the series circuit power distribution systems commonly used involve relatively high voltages."

Foundry Protection Code

Recently the Government requested the foundry industry to draft a set of rules and recommendations to be used as a guide in providing safeguards for foundries during war time so that maximum operating capacity will not be endangered. In answer to this request, the American Foundrymen's Association has formed a committee to draft such a code of rules for

Pointers on **PLANT**

protection of foundries and properties in war time.

The committee will function under the Safety and Hygiene section of the American Foundrymen's Association and will be under the chairmanship of James R. Allan, International Harvester Co., Chicago, chairman of the A.F.A. Industrial Hygiene Codes Committee.

What to Do in an Air Raid

The plant protection division of the Office of Civilian Defense issued the following instructions for workers in industrial plants as to their conduct in the event of an air raid:

1. Keep working until our air-raid alarm is sounded.
2. Take cover.
3. Keep cool and help others to keep cool.
4. Don't phone or shout—listen to your air-raid warden.
5. If you have a plant defense post, take that position at the sound of the alarm.
6. Others continue their usual tasks until the air-raid wardens give the signal to take temporary shelter.
7. Take necessary safety measures for machine and tools.
8. Do not show lights.
9. Fight incendiary bombs. Conflagrations are avoided by controlling such bombs at once.
10. Remain "alert" in the prescribed safe place until the "all clear" signal is given and then return to work.
11. Remember that this is a war of production and that production must continue. Your plant is taking every precaution for your safety.

PROTECTION

Electric Eye on Guard Duty

The "electric eye," used for years to count traffic, open doors for busy waitresses, sort coffee beans according to color and do a dozen or more other jobs which previously had to be done by hand, has just come into a real wartime occupation, that of standing by as all-night guard for alert warnings of possible air raids. Focused on the street lights, which will be turned off the instant a warning is received in any city, the "electric eye" sounds an immediate warning and likewise turns off the lights in the home, store, display signs or wherever lights are to be extinguished to perfect a city blackout.

The idea originated with Andrew

YOUR PRODUCTION FIGURES SHOW THE RESULT OF OUR DRIVE FOR BETTER HAND-WASHING
"KEEP 'EM FLYING"
WITH
healthy hands
wash well

Now, if ever, all industry needs hands fit for work . . .

Now, if ever, all industry needs hands fit for work . . .

LAN-O-KLEEN* has won its way into defense plants from coast to coast by *proving* it helps *prevent occupational skin diseases.* Lan-O-Kleen removes 95% of all soils encountered in industry—mildly and without harsh chemical action. It leaves hands feeling better, more ready for work.

But of even greater importance today, Lan-O-Kleen is playing its part to speed Production because Healthy Hands work faster. They are less liable to infection. Less danger of lost time.

Lanolin (an emollient used in healing salves), with which Lan-O-Kleen's corn-meal base is impregnated, is almost identical to the natural oils secreted by the glands of the skin. Thus Lan-O-Kleen puts an oil on the hands that helps nature maintain a normal, healthy skin condition. Production loss from dermatitis and sick leaves are reduced—and plant efficiency is increased.

Skeptical? We'll send some Lan-O-Kleen to try on your own hands—*and you'll see for yourself!*

★ **JUST CLIP THE COUPON!**

* Trade Mark Reg. U.S. Pat. Off.

WEST DISINFECTING COMPANY

SERVING AMERICAN INDUSTRY FOR OVER 50 YEARS

55 BRANCHES Coast-to-Coast and in Canada

CLIP TO YOUR BUSINESS LETTERHEAD, PLEASE

West Disinfecting Company, Dept. OS, 42-16 West Street, Long Island City,

Please send me a **SAMPLE QUANTITY** of Lan-O-Kleen with which I will give your claim a practical test. Please include your folder explaining its use.

Name_____ Title_____

Name of Company_____

Street and Number_____

City and State_____

IF YOU WISH COPIES OF THE COLOR POSTER SHOWN IN THE ABOVE PHOTOGRAPH, USE THE COUPON AND CHECK ☐ HERE

Electric eye automatically shuts off inside lights when street lights go out.

Tessier, who with his brother conducts a small machine shop in Schenectady, N.Y. and is engaged in wartime defense orders. When war was declared, orders were issued to all people, including business houses, that lights must be extinguished within five minutes after an air raid warning. Tessier's shop is too small to afford an all-night watchman, yet he felt that it would be dangerous to put out his night lights. However, he tried it and the first night his lights were all out, his place was broken into.

It was then he hit on the idea of using a photo tube, or "electric eye" as it is more popularly known. He installed this at the window on the second floor of his shop, with the eye pointed toward the street light on the corner, and adjusted it so that whenever the street light went out, all lights in his place would go out. When the street lights came back on again, on would go his all-night lights.

Workers' Health and the 24-Hour Schedule

Statement by Surgeon General Parran

Surgeon General Thomas Parran, of the United States Public Health Service, recently issued the following statement with especial regard to the number of industrial

establishments operating on a 24-hour-a-day schedule.

"As in the first World War American industry is faced with the problem of 24-hour-day, 7-day-week operation. Fatigue is a health hazard and a hazard to continuous production. The addition of second and third shifts to plant schedules necessitates the establishment of the rotating shift.

Special Precautions

"To maintain workers' health and thereby peak production, industries operating on the 24-hour basis must take special precautionary measures to minimize the effects of night work and the rotating shift. The United States Public Health Service makes these recommendations:

"1. Workers changing over from day to night shift every 2 or 3 *weeks* find it difficult to adjust their eating and sleeping habits. In plants operating on a 24-hour schedule, shifts should not be rotated more often than every 2 or 3 *months*.

"2. Each nursing shift should rotate at the same time as the workers' shift, so that the same nurses will always be acquainted with the workers they are treating.

"3. Women with home responsibilities often try to do their housework during the day while working on night shifts. Chronic fatigue in short order is the result. In general, women workers who also have domestic duties should not be employed on the night shift.

"4. A 60-hour week—on a 10-hour day, 6-day week basis—may become necessary. Excessive increases in working hours lead to reduced efficiency during working hours, absenteeism and sickness. A 48-hour week—on an 8-hour day, 6-day week basis—is preferable. Individual workers should have one day in every 7 days reserved for rest and recreation; this does not preclude continuous operation of the factory.

"5. Organized rest periods help maintain production at a high level. Five to fifteen-minute rest periods should be provided at the end of the first quarter, and again at the three-quarter mark of each shift. This is especially important in repetitive monotonous work or heavy manual labor. Milk, soft drinks, sandwiches and candy should be available during the rest periods.

"6. A particularly high standard of lighting is necessary in plants operating at night or under black-out conditions. Proper lighting reduces fatigue, improves morale, and prevents accidents due to poor light or glare.

"This six-point program should be based on the broader industrial hygiene service advocated by the United States Public Health Service which includes:

"Medical and nursing services available to workers on each shift; good plant housekeeping; adequate sanitary facilities; adequate ventilation; control of exposures to hazardous operations or to noxious dust, fumes and gases; proper placement of workers in jobs for which they are physically and temperamentally suited; reduction of excessive noise (a well-known fatigue producer); health and safety education programs, such as sanitation, nutrition and hygiene.

Right off the Docket

The trend of litigation on workmen's health and accident compensation is reflected in these briefs of the latest and most representative cases coming to trial in the intervals between issues. Familiarity with this trend is important to every industrialist.

Silica Dust Aggravates Tuberculosis

An employee who previously had tuberculosis worked for two years as a rock crusher. The action of silica dust, to which the employee was exposed in his work, aggravated and lighted up his latent tubercular condition and caused his death.

The Court held that this unexpected action of the silica dust constituted an "accidental injury." The fact that the employee had a predisposition to tuberculosis did not bar his right to compensation. An award was granted.

Dobbs vs. Bureau of Highways (Idaho) 120 Pac 2nd 263 (Dec.-1941)

Dermatitis Award Refused

The evidence in this case showed that a florist's employee developed a skin rash characterized as dermatitis which came from handling flowers in connection with his work. The skin condition was not covered by the New Jersey Workman's Compensation Act. The Court stated that the employee had not suffered an "accident" nor an "accidental injury" and was not entitled to compensation.

Van Orden vs. Dave's Flowers Inc. (N.J.) 23 Atl. 2nd 387 (Dec.-1941)

Death Award For Hernia

A forty-seven year old employee subjected himself to strain in lifting bars of iron weighing 250 to 300 lbs. to a bending machine. After this work he walked one block to his home complaining of pain in the side. He remained in bed for two days. On the 3rd day the employer's physician found the employee suffering from hernia. An operation was performed which resulted in the employee's death.

The above facts were found sufficient to sustain an award for the death. It was held that the employee had suffered an "accidental injury" arising out of and in the course of his employment.

Riley vs. Knoxville Iron Co. (Tenn.) 156 S.W. 2nd 398 (Nov.-1941)

Assumption of Risk Defense Against Employee's Suit Rejected

An employee brought suit against his employer to recover for injuries received while greasing the compound gears on mill machinery. The company claimed that the worker knew that if his hand were drawn into the gears he would be injured and consequently he had assumed the risk and could not sue for the damages sustained.

The evidence showed that the employee at the time he was injured was

greasing the gears according to instructions given him by his employer. The instructions given the employee were incorrect. Under these circumstances the Court decided that the defense of "assumption of risk" was not available to the employer. The decision stated, "A master is no less responsible to his workman for personal injuries occasioned by a defective system of using machinery than for injuries caused by a defect in the machinery itself, since the master is bound to see that the instrumentalities which he furnishes are properly used."

Demers vs. Becker (N.H.) 23 Atl. 2nd 375 (Dec.-1941)

Fall Causes Cancer Flare-Up

An iron worker had a latent condition of osteogenetic sarcoma, or cancer. While at work one day he fell off a beam and suffered injury to his hip. This fall caused the worker's cancerous condition to flare up and death resulted. The death was held due to an accident suffered in the course of employment, and an award was granted.

O'Neil vs. Babcock & Wilcox (N.J.) 23 Atl. 2nd 116 (Nov.-1941)

Injury On Home Steps Held In Course of Employment

A door to door canvasser was injured when he fell while walking down the steps of his own home as he was on his way to his daily work. The salesman when he was injured was carrying a rug which he intended to sell on behalf of his employer. This man had no definite working hours, and wasn't required to report in the morning. The injury suffered was held to be compensable as an injury by accident "arising out of and in the course of employment."

Cohen vs. Central Home Furniture Co. (Penn.) 23 Atl. 2nd 70 (Dec.-1941)

Digested & Compiled by
HILTON E. ROBERTS
Member of the Ohio and
New York Bar

STRIKE OUT HEAT CRAMPS!

They have no place in your defense program!

What Causes Heat Cramps

...No one is immune—office workers and factory workers alike can be victim to heat cramps (thermoplegia)! When temperatures run high and the individual loses too much *salt* from his system through perspiration...heat cramps attack without warning, extracting their toll from workers in "limp muscles," "the jerks," "the bends"!

How to Prevent Heat Cramps

...Logic dictates that if heat cramps are brought on by loss of salt in the human system—the *adequate* replacement of salt-loss will eliminate the cause. Yes! Plain ordinary table salt taken with drinking water is a good preventative. To facilitate proper dosage... International Salt has prepared Sterling Salt Tablets of compressed refined salt. They permit quick storage of the extra salt needed to combat heat cramps. When preferred, Sterling Salt Tablets can be supplied with 70% refined salt and 30% dextrose for *extra* energy! For full information write to...

INTERNATIONAL SALT CO., INC.
SCRANTON, PA.

STERLING SALT TABLETS

For Air Raid Wardens, Plant Fire Brigades, and Civilian Defense Workers!

***Pulmosan* No.A-33**
ASBESTOS HOOD

Made of strong asbestos and equipped with an inner skull-guard of specially processed material, this Pulmosan Asbestos Hood protects head, face, eyes, neck and shoulders aaginst hazards of intense heat, glare, flying debris and burning embers. Available with clear or dark shaded lenses of non-inflammable material. Lenses easily changeable. Quickly put on; fastens under arms with leather thongs. The Pulmosan A-33 Asbestos Hood is an important safeguard for industrial or war emergencies. Write for prices.

PULMOSAN
SAFETY EQUIPMENT CORP.
Dept. OH, 176 Johnson St., Brooklyn, N.Y.

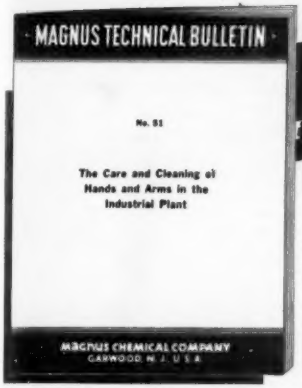
Safety Clothing for Women Workers

The well-dressed woman in industry today is the safely dressed woman, concludes Women's Bureau Special Bulletin No. 3, "Safety Clothing for Women in Industry." This is the latest in a series of special bulletins for the employment of women in the defense program and correlates recent findings of the Bureau with other studies on the subject. Illustrations of various kinds of work clothing appear throughout the publication.

Shoes and Garments

It's not necessary to sacrifice charm and feminine appeal in order to be a safe worker, the bulletin explains. Clothing can be comfortable, clean, cool, and convenient without making the wearer look unattractive. The work dress must suit the job. If it is too tight, it causes strain and fatigue. If it is too loose, it may catch in the machinery. It should have no outside pockets, ties, or frills. It has been found that highly starched garments hinder the absorption of poison, so the safely dressed worker is neatly crisp in appearance. Sensible shoes are also an essential item of the workers' wardrobe and should be comfortable, durable, and suitable. Run-down heels and thin or worn soles may be the direct cause of a fall.

Special work clothing and accessories can be designed for jobs with special dangers. For example, some occupations require the wearing of safety shoes with reinforced vamps or foot protectors made of


MAGNUS TECHNICAL BULLETIN
No. 51
The Care and Cleaning of Hands and Arms in the Industrial Plant
MAGNUS CHEMICAL COMPANY
GARWOOD, N. J., U.S.A.

SEND FOR YOUR COPY TO-DAY!

When every man-hour counts, don't let false economy or old fashioned policy permit dermatoses and infections due to unsafe hand cleaning compounds boost the "Time-lost" factor in your plant.

Get the plain, unvarnished facts on industrial hand cleaners as covered in the new Magnus Technical Bulletin No. 51—"The Care and Cleaning of Hands and Arms in the Industrial Plant."

This bulletin is of real interest to safety men, industrial physicians, insurance men and plant executives. Just tell us to whom we should send a copy or copies.

MAGNUS CHEMICAL COMPANY

Manufacturers of Cleaning Materials, Industrial Soaps, Metallic Soaps, Sulfonated Oils, Emulsifying Agents and Metal Working Lubricants.

23 South Avenue Garwood, N.J.

MAGNUS CLEANERS

chrome leather and aluminum. Where workers handle acids or where conditions of excessive moisture and heat exist, wooden soled shoes have been designed. In the manufacturing or handling of explosives, shoes with sewed or wooden-pegged soles and heels with copper nails must be worn.

Goggles

"Wear your goggles—you can't replace an eye" is a wise slogan, says the bulletin. Goggles should be light-weight and comfortable and only shatter-proof glass should be used. In New York alone, it is noted, 2,000 workers a year suffer from eye injuries severe enough to make them eligible for compensation benefits. Among the more frequent hazards are flying bodies, tools, splashing liquids, etc. One large manufacturing firm requests that goggles be worn by all workers and even by visitors. This company saved $116,000 in two years by this requirement, and what is far more important, it saved at least "100 eyes" in a period of 10 years.

While every woman loves to have attractive hair, the bulletin cautions the woman worker that electrical attraction may draw free hair into a moving machine, so that caps are almost a necessity in most factories. They should be light, comfortable, and washable, and large enough so that they can be easily thrown off in an emergency. If the hair is not completely covered, nets under the cap give added protection. Visored caps protect the eyes from the light, and scarfs wound around the head pro-

PREVENT Cutting Oil Contamination **Never has it been so important to keep skilled workmen on the job—to prevent cutting compound spoilage. Don't risk loss because of contaminated coolants.**

Because materials and factory conditions differ widely, Dolge first makes a complete free bacteriological examination of cutting oil compounds from your machines. If sanitation is indicated, a "tailor-made" germicide is recommended to fit your needs.

Write for free Booklet OC-1 on this new principle of protection.

THE C.B. DOLGE Co. WESTPORT DOLGE CONN

tect workers from flying dust.

Gloves are an all-important factor in safety clothing, it is pointed out. According to some State reports, approximately half of all occupational injuries to women affect their hands and fingers. However, gloves can be more harmful than helpful if they are not of the right fabric. Gloves that absorb moisture may be more dangerous than no gloves at all. Leather gloves particularly should be checked for rough seams as continual irritation opens the way for infection.

Special Bulletin No. 3 can be gotten from the Editor, OCCUPATIONAL HAZARDS, 812 Huron Rd., Cleveland, Ohio.

Bullard Adds

Tom Hallinan, for the past seven years connected with the mining supply business in the Rocky Mountain Region, has joined the sales staff of the E. D. Bullard Co., safety equipment specialists. He will cover a territory from South Dakota as far south as El Paso, Texas, making his headquarters in Denver, where he was educated.

In addition to his training in first aid, Hallinan has made a specialty of electrical, chemical and traffic problems, which experience will enable him to be of considerable value to a great many industries in the mountain states.

New Safety Engineer at Allis-Chalmers

George F. Nuernberger has been named safety engineer at the Allis-

Chalmers Manufacturing Co., it has been announced by L. H. Hill,

vice president in charge of industrial relations.

In that capacity, Nuernberger will supervise and direct the company's extensive safety program.

Nuernberger graduated from the Marquette University, College of Civil Engineering, in 1938 and joined the Wisconsin Highway Commission as an in-service training apprentice. He later served as field engineer for a Wisconsin construction firm on a Pennsylvania superhighway contract.

In 1939 he entered Allis-Chalmers as a graduate engineer in training, completing the course in November, 1941. He was appointed safety engineer after serving as the industrial relations department's research engineer.

Wanted—Safety Instructors for Bureau of Mines

The Federal Civil Service Commission has announced that it is recruiting safety instructors for positions in the Bureau of Mines, Department of the Interior. The salary is $1,800 a year. Appointments will be made in the fields of coal and metal mining, quarrying, tunneling, and petroleum. All applications for the written general test must be on file with the U. S. Civil Service Commission, Washington, D.C. not later than March 30, 1942.

Two years' experience is required in a responsible position such as mine or section foreman, shift or fire boss, or safety inspector or engineer in the mining or petroleum industries. Before persons can be appointed from the employment lists established as a result of the examination, they must possess either a Bureau of Mines first-aid or mine-rescue certificate. Applicants must be between 25 and 35 years of age, and must meet certain rigid physical standards.

The duties of these positions include instructing classes in first-aid, accident prevention, and in the use of gas masks. Addressing safety meetings and assisting with first-aid contests may also be part of the work. Instructors are subject to

(Please turn to page 29)

Emblems

FOR VICTORY

PATRIOTIC SAFETY EMBLEMS

will help production in your plant. Attractive and timely they can be easily attached to industrial work garments. The cloth insignia illustrated is immediately available. Orders from 100 to 5000 can be filled promptly. Write for free sample.

The Cleveland Overall Co.

1768 E. 25th St. Cleveland, Ohio

Hazardous Chemicals

(Continued from page 10)

stances the desired information may be developed by an organization's own safety engineer or chemical laboratory. If outside assistance is sought (insurance carriers, chemical manufacturers, state or federal occupational health boards), the point to remember is that the application of the recommendation may not be easy of accomplishment, but must be engineered finally to a practicable solution.

5. The final step is to gear the plant to handle dangerous new chemicals safely. This involves company regulations for storage, transit and point of operation handling. Regulations must be enforced.

PLY

PROTECTS THE MEN BEHIND THE MEN BEHIND THE GUNS!

PLY protective creams and liquids prevent industrial dermatitis . . . skin disorders that are caused by contact with acids, alkali, explosives, solvents and other materials essential to industry. There is a specific PLY formula for each individual group of hazards. Investigate PLY today!

● Without obligation, write for authoritative illustrated booklet *The Answer to Industrial Dermatitis.* Every man responsible for production should have this practical guide.

PIONEERS OF SKIN PROTECTION IN INDUSTRY

The MILBURN Co.

901 HENRY STREET • DETROIT, MICHIGAN

It involves issuing instructions to supervisors who, in turn, relay them to each worker dealing with the chemical. Instructions and regulations, of course, should cover the use of safeguards as well as the handling of the material.

This point cannot be overemphasized: *If the chemical content of a new substance cannot be determined, or if the hazards cannot be discovered, or if satisfactory safeguards cannot be provided, the plant would be well advised to use another material.* To do otherwise may prove to be an extremely serious mistake.

Burns and other skin irritations should be immediately treated by the plant physician or nurse.

3 for worker defense demand
SAFETY FACTORS
in your
GRANULATED INDUSTRIAL SKIN CLEANSER
1. pH Below 10
2. No Free Alkali
3. Low Alkaline Salts (less than 8% calculated as sodium carbonate) buffered and balanced against pH.
PAX
TRADE MARK REG. U.S. PAT. OFF.
G. H. PACKWOOD MFG. CO.
PAX
2042 WALNUT DEPTH ST. LOUIS.

HEAT-FAG and
Accidents Ride Together!
AVOID HEAT-FAG
USE MORTON'S
SALT TABLETS
Salt lost by sweating increases fatigue —lowers efficiency and production. Provide Morton's salt tablets in handy dispensers. Write for information, prices.
MORTON SALT CO., Chicago, Ill.

SAFETY INSTRUCTORS—WANTED

from page 27

call at any time to help with rescues and recovery work following disasters. They will also assist in investigating disasters.

Copies of the announcement and application forms may be obtained at first- and second-class post offices or from the Civil Service Commission in Washington, D.C. Qualified men are urged to apply.

The LITERATURE Library

A listing of data available, without cost, to help you in maintaining a health and safety program.

Eye, Foot, Hand Protection—First Aid

No. 01—CORD-ON-END-SOLES—Pamphlet shows how looped cord-on-end structure makes soles more rugged and safe. Panther-Panco Co.

No. 02—FACE SHIELDS—Circular illustrates and describes 36 types of face shields for dust hazards, welding operations and general hazardous work. Boyer-Campbell Co.

No. 03—SPEED FRAME GOGGLE—Sheet points out goggle with automatic position feature. A simple nod of the head positions the goggles. Mine Safety Appliances Co.

No. 04—EYE PROTECTION—Eight page booklet lists a variety of goggles, lenses, spectacles and goggle accessories. Mine Safety Appliances Co.

No. 05—SKULLGARDS—4 page bulletin lists 7 different head protective products. Actual endorsements detailed. Mine Safety Appliances Co.

No. 06—EYE PROTECTION CATALOG—Outline indicates eye hazardous industries, operations and the type of goggle best suited to handle the problem. American Optical Co.

No. 07—"HOW TO FIT GOGGLES"—4 page bulletin tells how to fit goggles and gives tips for maximum performance. American Optical Co.

No. 08—GLOVES—Information on cowhide welding gloves. Double stitched and fully reinforced. American Optical Co.

No. 09—SAFETY SHOES—"The Whole Story" is the name of a 21 page booklet giving data on safety shoes, their application and use. International Shoe Co.

No. 010—SWEAT PAD—Request on company letterhead will bring free sample of sweat pad for the head. Keeps head cool and sweat out of eyes. American AllSafe.

No. 011—EYES ARE EXPENSIVE TARGETS—16 page booklet brings the matter of eye protection down to a dollars and cents story. Effective as a management tool. American Optical Co.

No. 012—PLASTIC EYE PROTECTORS—Bulletin shows manufacturing techniques used in the development of new plastic spectacles called I-GARDS. All around protection given. B. F. McDonald Co.

No. 013—PACKAGED FOOT SAFETY PLAN—Liberally illustrated book gives full information about a new plan for the distribution of safety shoes. Thom McAn Shoe Co.

No. 014—SAFETY SHOE CATALOG—Is a complete buying guide to a broad selection of safety shoes. Full details on construction and recommendations for specific hazards are included. Lehigh Safety Shoe Co.

No. 015—FIRST AID KIT—4 page bulletin talks about dust proof and weather proof first aid kits. Contents of kits given. Mine Safety Appliances Co.

No. 016—SALT TABLETS—Pamphlet reprints article "Keeping in Condition by Using Salt." Prices and full details given. Morton Salt Co.

No. 017—EAR DEFENDERS—4 page booklet refers to ear defenders that reduce the sound level in noisy locations to about 1/10 of the former level. Points out possibility for greater efficiency. Mine Safety Appliances Co.

Sanitation—Good Housekeeping

No. 100—INDUSTRIAL UNIFORM SERVICE—Pamphlet points out a plan whereby soiled garments are exchanged for freshly laundered ones at no inconvenience and with profitable results to the user. Cleveland Overall Co.

No. 101—SCOPE OF SANITATION—64 page book is a treatise on the many chemicals, products and equipment that provide for a sanitary, healthful plant. Handy guides are included. West Disinfecting Co.

No. 102—GROUP WASHING EQUIPMENT—Catalog No. 4010 details various kinds of washfountains, group showers, includes engineering layouts. Drinking fountains and properly planned washrooms also discussed. Individual bulletins on washroom layouts and pictorial applications also available. Bradley Washfountain Co.

No. 103—INDUSTRIAL DERMATITIS—40 page book includes a scientific report on industrial skin diseases. Products for prevention are outlined. Milburn Co.

No. 104—ATHLETE'S FOOT PREVENTIVE—Circular lists user experience with athlete's foot treatment and offers 60 day trial. Onox Co.

TO GET FREE COPIES of material described on this page write to OCCUPATIONAL HAZARDS, 812 Huron Rd., Cleveland, Ohio, giving the individual number of the pieces desired.

No. 105—HAND CLEANER—Pamphlet is a "question and answer" account of how this industrial cleaner is being used effectively by industry. Individual circulars for specialties are available. West Disinfecting Co.

No. 106—FLOOR SCRUBBING MACHINES—4 page bulletin describes a machine that scrubs, polishes, sands, etc., as interchangeable attachments are used. Hild Machine Co.

No. 107—POSTER SERVICE—Patriotic posters dealing with health of workers are available gratis. Sized 9 x 12 and color. See pages 18 & 19. West Disinfecting Co.

No. 108—FOOT POWDER—Athlete's Foot powder is furnished in either white stainless form or a slight tracer form. Remains stable in solution. C. B. Dolge Co.

No. 109—SKIN CLEANSER—Generous free trial supply of industrial hand soap is made. Circulars containing specific information available. Sugar Beet Products Co.

No. 110—POWDERED HAND SOAPS—Soap available in various consistencies for specific job. Descriptive literature issued. Lightfoot Schultz Co.

Plant Protection—Maintenance

No. 200—PLANT PROTECTION FOR DEFENSE—Modernized manual of rules, regulations and instructive information to guide watchmen, guards and supervising personnel. Detex Watchclock Corp.

No. 201—SLING CHAINS—4 page catalog sheet details safe working loads, gives dimensions and offers a buying guide for sling chains. McKay Company.

No. 202—INDUSTRIAL WIRE ROPE—96 page catalog contains specific recommendations as to the constructions best suited for various types of cranes and industrial equipment. Broderick & Bascom Co.

No. 203—FLOOR FINISH—Catalog page describes penetrating floor finish that provides an attractive surface as well as preservation of the floor. Truscon Laboratories, Inc.

No. 204—UNIT HEATERS—36 page catalog points out the advantages of unit heaters, gives helpful engineering data including tables, illustrations and piping diagrams. Ilg Electric & Ventilating Co.

No. 205—FLOOR MAINTENANCE—30 page booklet refers to specific material that can be used for properly maintaining all types of floors. Thoroughly detailed and a valuable maintenance manual. West Disinfecting Co.

No. 206—FLOOR PRESERVATION—Literature on floor scrubbing machines indicating safety and maintenance features. Data on products such as waxes, finishes, etc. available. Finnell Co.

No. 207—INDUSTRIAL VITAMIN PLAN—Detailed account of how vitamin pills are now available to industry. User experience listed. Industrial Vitamin Corp.

Protection Against Dusts, Fumes, Gases

No. 300—DUST COLLECTING SYSTEMS—Spiral bound book is both a word and picture presentation of industry's acceptance of skillfully engineered dust control systems. Various accessory equipment detailed. Kirk & Blum Mfg. Co.

No. 301—VENTILATING EQUIPMENT—Catalog page describes ventilating apparatus that is designed to remove various harmful fumes and vapors. Recorded air changes, diagrammatic sketches included. Autovent Fan & Blower Co.

No. 302—"AAF in Industry" tells the story of industrial dust problems and their solutions. Liberally illustrated and skilfully conceived. American Air Filter Co.

No. 303—PORTABLE VACUUM CLEANING—6 page bulletin points out the places where vacuum cleaners can be effectively used in industrial operations. Free demonstration available. Hild Machine Co.

No. 304—AIRLINE RESPIRATOR—Bulletin CS-6 points out use for an airline respirator with cartridge filter. Auxiliary attachments outlined. Mine Safety Appliances Co.

No. 305—OXYGEN BREATHING APPARATUS—Material descriptive of 2 hour, 1 hour, and ½ hour oxygen breathing apparatus that provides for various periods of respiratory protection. Bulletins are BB-1, BM-2, BC-2. Mine Safety Appliances Co.

No. 306—FUME AND GAS INDICATORS—Catalog sheets and bulletins referring to indicators for benzol, combustible gas, carbon monoxide and hydrogen sulphide. Recorders for oxygen, methane and electrostatic dust and fume sampler also have descriptive data. Mine Safety Appliances Co.

No. 307—FURAIR HELMET—4 page bulletin No. 97 describes a helmet particularly applicable in sand blast operations. W. W. Sly Mfg. Co.

No. 308—DUST COLLECTORS—Bulletin No. 903 describes engineering features available in this dust control equipment. Includes recommendations, specifications and list of users. Pangborn Corp.

No. 309—QUESTIONS AND ANSWERS CONCERNING DUSTS—16 pages of questions and answers are devoted to explaining in non-technical language the problems that continually arise regarding the nature and effects of dust. Mine Safety Appliances Co.

No. 310—SAFETY MARKING STAMPS—Literature describes full line of steel stamps used for marking. Stamps will not mushroom or spall. M. E. Cunningham Co.

No. 311—VACUUM CLEANING—"The Menace of Dust" is a circular that points out uses for heavy duty vacuum cleaning equipment in industry. Adjustments and tools for greater efficiency are discussed. U. S. Hoffman Machinery Corp.

TO GET FREE COPIES of material described on this page write to OCCUPATIONAL HAZARDS, 812 Huron Rd., Cleveland, Ohio, giving the individual number of the pieces desired.

New Ide... IN THE FIE...

BLACKOUT LIGHT — Holophane Co., Inc., New York, N.Y. has now available for prompt shipment a blackout lighting unit. It was designed in close co-operation with the engineers of the Holophane Company Limited in London, England and follows the

requirements of the British Air Raid Precaution Specification. Lighting performance is within the severe limits which were established for this critical lighting application in England; its mechanical and optical construction has been proven right by its universal acceptance there as a standard.

WIRE ROPE—"Ropeology" is a new publication recently issued by the MacWhyte Company, Kenosha, Wisconsin.

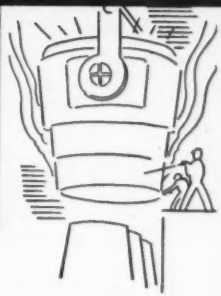
The bulletin represents a collection of wire rope users' experiences plus a science of wire rope application. Typical article heads are "Make your wire rope dollar go farther" and "Lubrication lengthens wire rope service." The publication is full of hints for the wire rope user. Copies will be supplied to those readers who make requests on their business letterheads.

UNIQUE IDEA—A method of welding instruction that eliminates injury hazards, while speeding and improving the trainee's education, is in effect at Caterpillar Tractor Co., Peoria, Illinois.

Realizing the need for an improved method of instruction, K. H. Jackson, supervisor of the sheet metal and arc welding course at "Caterpillar," inaugurated a one-way telephone system that has proved most successful.

Taking two ordinary welding helmets, Mr. Jackson installed a transmitter in the one to be worn by the

instructor, and a receiver in the one to be worn by the apprentice. The transmitter and earphone are plugged into a wall box enclosing four "B" batteries in series. Wires from the



transmitter and receiver are supported and kept out of the way by ring supports suspended overhead.

The instructor gives instructions as the apprentice works, and points out things under the arc that are impossible to show on the classroom board.

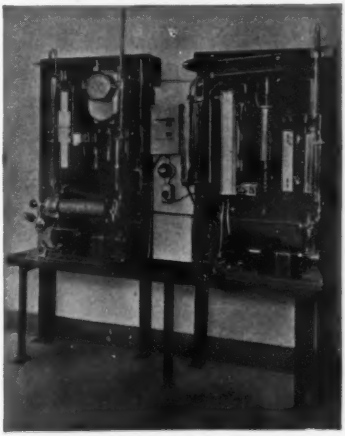
All this gives the apprentice a start on the right foot. He not only has his mistakes pointed out the instant he makes them, but is thoroughly drilled in the proper and safe methods of procedure, a very important consideration in accident prevention.

CHIPPERS GUARD—A practical, comfortable, long-wearing guard for Chippers has recently been designed by the Industrial Gloves Company of Danville, Illinois. This new safeguard

is made of heavy chrome tanned cowhide split leather and is claimed to stand the hardest wear. Mitten pattern, open end to admit full use of fingers.

Guard reinforced where wear comes on palms and back with extra leather patch-insulated against heat with wool heat-breaker. Back of thub reinforced with extra leather. Can be worn over glove or bare hand. Supplied as pairs, all lefts, rights or any combination of lefts and rights as need at no additional cost. Double sewed throughout for extra wear.

IMPROVED CO RECORDER—The New M.S.A. Continuous Carbon Monoxide Recorder, completely described in a bulletin just issued by



Mine Safety Appliances Company, Pittsburgh, is designed to provide extremely precise measurement and re-

cording of very low concentrations of Carbon Monoxide in air.

This new instrument has many applications in continuous testing of atmospheres and gases for CO, including: testing of gas-burning appliances for determination of CO in combustion-products; testing of various gases for possible CO contamination; and for control practices in manufacturing processes where CO is involved.

The range and sensisitivity of the M.S.A. Carbon Monoxide Recorder can be varied to suit conditions and results desired. Where sensitivity is of prime importance, calibration covers a range of from 0 to 500 parts per million. Where a wider range is desired, the instrument can be calibrated to cover a range of from 0 to 2000 or more parts per million.

PROTECTIVE LIGHTING — Announcement is made by the Goodrich Electric Company of Chicago of the new Elipso Standlite, which is said to fill a definite need for protective illumination around industrial plants, and conforms with FBI specifications. Due to its elliptical shape, the fixture

provides a wide lateral distribution of light. With proper spacing of fixtures, a brilliant barrier of light is created around property lines without illuminating buildings and grounds. Watchmen remaining in the darkness, can instantly spot the entrance of any intruder into the brightly lighted fence or boundary area. With the low mounting height, lamps of from 300 to 500 watts deliver a high intensity of illumination.

The Elipso Standlite is available in the two styles illustrated, and is designed for mounting on a standard two-inch pipe. Catalog sheets may be obtained from the Goodrich Electric Company, 4600 Belle Plaine Avenue, Chicago, Illinois.

EMPLOYEE ORGANIZATION FOR FIRE SAFETY—National Fire Protection Association, Boston, Mass., 1942. 48 pp. 25¢.

Among current publications on fire safety is the National Fire Protection Association's unusual new booklet, "Employee Organization for Fire Safety." The N.F.P.A. is America's foremost fire safety authority, a non-profit, educational organization devoted to promoting the science and improving the methods of fire protection and prevention.

The booklet devotes a separate section to the duties and responsibilities of each group in a business or industrial organization. None of the recommendations and suggestions made for personal and plant protection are either new or untried. Each has proved its worth on countless occasions in the past; each, if carefully observed and put into regular practice, will be invaluable in any future emergency. What every employee must know about fire alarms, air raid evacuation procedure, fire appliances, incendiary bombs, and safety housekeeping is presented in detail, graphically illustrated to insure a complete understanding of this essential information.

RUST-PREVENTION—A new principle of rust prevention is announced by the Milburn Company, Detroit, in the form of a cream known as Ply-Rustex which is applied to the hands of the worker before contact with highly polished metal surfaces. This new step is said to eliminate perspiration corrosion and other forms of rusting caused by the handling of metals during machining operations.

The worker applies the cream to his hands before touching any part of article to be machined or processed. This new technique enables free handling of the metal throughout many machining operations without gloves, because Ply-Rustex is said to form an invisible film on the skin, a protective coating that is inert with respect to chemicals, oils, cutting compounds and other materials that may be a part of the particular industrial process.

Characteristic of all Ply preparations, Ply-Rustex is non-toxic, does not harm the skin, applied like a vanishing cream, and is removed easily. Moreover, since it forms an impervious protective coating, it prevents irritations that may result in many forms of industrial skin disturbances.

MOTOR WITH ALL-ROUND PROTECTION—Allis-Chalmers announces it line of New Lo-Maintenance Motors with "Safety-Circle" protection. Specially developed to give the motor complete all-round protection, the "Safety-Circle" is a wide, solid rib—integrally cast as part of the frame—which forms an unbroken circle of protection around the stator.

One-piece cast frame and cast endshields guard the motor from exterior knocks and abuse. A more liberal use of electrical material makes this motor internally and electrically strong because current and magnetic densities are less extreme.

PROTECTIVE LIGHTING—For night-time production and protection in outdoor areas near manufacturing buildings, and for construction projects, recommended floodlighting practice is described in a new 22-page bulletin announced by Westinghouse Electric and Manufacturing Company.

Divided into six parts, the scope of the bulletin is as follows: (1) Typical applications of protective floodlighting; (2) Application of principles to the points requiring protection; (3) Application of equipment to points requiring protection; (4) Floodlighting for production; (5) Typical industrial plant applications; (6) Lighting units for protective and productive lighting.

A copy of booklet B-2280 may be secured from Westinghouse Electric and Manufacturing Company, Cleveland, Ohio.

HAND CLEANING—The Magnus Chemical Co., Inc., manufacturers of Hand Cleaner, Industrial Cleaning Materials and Emulsifying Agents, has just issued a new 24-page Technical Bulletin entitled "The Care and Cleaning of Hands and Arms in the Industrial Plant."

MAGNUS TECHNICAL BULLETIN
No. 51
The Care and Cleaning of Hands and Arms in the Industrial Plant
MAGNUS CHEMICAL COMPANY

The Bulletin has been written an designed for use by Safety Engineers, Industrial Physicians, Industrial Insurance Men, Plant Superintendents and plant men who are concerned with the control of industrial skin infections.

Important phases in the care and cleaning of hands and arms are discussed in the bulletin. Copies of Magnus Technical Bulletin No. 51 can be obtained by writing either to the Magnus Chemical Company, Inc., Garwood, New Jersey, or to the Editor of this publication.

NEW BOOK—"The Essentials of Occupational Diseases by Drs. Jewett V. Reed and A. K. Harcourt, of In-

SAFETY DIRECTORS

Say time sheets show fewer lost days when they help guard against dermatitis. For further details write to **Lightfoot Schultz Company, 663 Fifth Avenue, New York, N. Y.**

La Grace
POWDERED HAND SOAPS

dianapolis, is a well documented work based upon the 30 years' experience of these authors in practicing industrial medicine and surgery. It includes the latest and most expert professional opinions available. It includes all of the occupational diseases in the United States on record.

This detailed guide to occupational diseases contains useful information regarding the disease hazards and the disease manifestations which are possibilities in particular industries and industrial processes. Each disease is considered with regard to its occurrence, symptoms, diagnosis, and treatment.

Published by Charles C Thomas, Springfield, Illinois.

FLOOR MACHINES—Faced with the necessity of using alternate metals for aluminum, the G. H. Tennant Company of Minneapolis, Minnesota, took the opportunity to redesign their various floor machines and incorporate many improved features.

A new Model V is said to do all types of floor work expediently by use by 8" and 16" attachments. The machine is powered by an electric motor which provides two speeds with proper direction of rotation for sanding, buffing, wax application, polishing, and scrubbing.

Other features claimed for the machine are construction, high-powered vacuum which operates in either direction of rotation, and with automatic belt tension adjustment, method of applying and polishing wax in one rapid operation, simplicity of belt shift to change speeds for sanding and buffing, adjustable caster which permits leveling of machine if necessary.

Wood, asphalt tile, linoleum, terrazzo, marble and concrete are covered in the Tennant System of floor care.

BLACK-OUT SHADE—A new type of black-out shade with no horizontal battens or braces is announced by Andel & Company, Chicago, Ill. It is retained in the vertical channels against wind and high explosive or bomb concussions by means of milled bronze balls clamped to the edges of the shades. Worm and worm wheel tension adjusters to permit adjustment

of spring roller tension as well as thrust ball bearings are provided as standard components.

The black-out shade box and the channels are made of #20 gauge electro galvanized steel; the standard finish is black wrinkle, in and out, or all-over. The shade has the approval of the War Department.

Serious blows to Victory

...WOUNDED SOLDIERS AND EYE-INJURED WORKERS

INDUSTRIAL eye-casualties that take workers — even temporarily — from the battle for the production of war materials, can hurt the cause of Victory as much as the loss of a soldier or sailor. In 1940 and 1941, nearly 20,000,000 man-hours needed to turn out munitions, ships, tanks and planes were lost by *industrial eye accidents* alone.

Those lost man-hours are lost *forever.* A most terrible tragedy and waste. But the point right now is this: *eye accidents must not happen from now on.* GOGGLES MUST BE WORN. American Optical Company is working day and night to make available to plants throughout the country its line of light, comfortable, safe goggles . . . goggles equipped with Deep-Curved Super Armorplate Lenses for greater resistance to impact.

An American Safety Representative is located in an AO Branch Office near you. Please don't wait . . . call him in for his recommendations today.

American Optical Company

Southbridge *Massachusetts*

MANUFACTURERS, FOR MORE THAN 100 YEARS, OF PRODUCTS TO AID AND PROTECT VISION

Your CHECK LIST

FOR THE ESSENTIAL SAFETY EQUIPMENT YOU NEED IN WAR PRODUCTION TODAY...

DUST AND FUME PROTECTION

- Abrasive Mask
- Air Line Respirator
- All-Dust Respirators
- Comfo Respirator
- Dustfoe Respirator
- Dust Hood
- Electrostatic Dust and Fume Sampler
- Filters, Respirator
- Metal Fume Respirators
- Midget Impinger
- Paint Respirator

RESPIRATORY SAFETY—Against Gases and Smoke

- All-Service Masks
- All-Vision Gas Mask Facepieces
- Ammonia Mask
- Babbitting Mask
- Chlorine Mask
- Hose Masks
- Tank Gaugers' Masks
- Telephone Mask
- Miscellaneous Industrial Masks
- Oxygen Breathing Apparatus
  - McCaa 2-Hour
  - M.S.A. 1-Hour
- Self-Rescuers

DESCRIPTIVE BULLETINS GLADLY SENT ON REQUEST

HEAD TO FOOT SAFETY

- Asbestos Suits
- Belts, Safety
- Caps, Skullgard Protective
- Clothing, Protective
- Combination Skullgard-Goggle Assembly
- Combination Skullgard-Welding Shield
- Ear Defenders
- Face Shields
- Fogpruf
- Gloves
- Goggles
- Hats, Skullgard Protective
- Helmets, Firemen's
- Knee Pads
- Pacs, Safety
- Rubber Clothing
- Shoes, Safety
- Toe Guards
- Welder's Coated Cover Glass
- Welder's Ear Protectors
- Welder's Helmets

SPECIAL EQUIPMENT

- Air-Mover
- Bulletin Boards
- Clean Air Blower
- Danger Signs
- Edison Electric Cap and Hand Lamps
- H-H Inhalators
- Ladder Shoes, Safety
- Oxygen Pumps, High Pressure
- Velocity Power Tools
- Ventilation Control

GAS INDICATION AND DETECTION

- Benzol Indicator
- Carbon Monoxide Alarm
- Carbon Monoxide Detectors
- Carbon Monoxide Indicators
- Carbon Monoxide Recorders
- Combustible Gas Alarm
- Combustible Gas Indicator
- Explosimeter
- Hydrogen Sulphide Detector
- Mercury Vapor Detector
- Methane Alarm
- Methane Detectors
- Methane Recorder
- Methane Tester
- Oxygen Deficiency Indicator
- Oxygen Recorder
- Pyrotannic Detectors

HEALTH AND FIRST AID

- All-Weather First Aid Kits
- Artificial Respiration Trainer
- Burn Treatments
- Fire Blanket
- First Aid Materials
- Foille for Burns
- Hand Creams, Protective
- Hospital Equipment
- Rheoderm Apparatus
- Salt Tablets
- Salt Tablet Dispensers
- Splints
- Stretchers and Stretcher Outfits

MINE SAFETY APPLIANCES COMPANY

BRADDOCK, THOMAS AND MEADE STS., PITTSBURGH, PA.

District Representatives in Principal Cities